Author Index to Volume 14

Albanese, E.: see Albanese, A.

Albanese, A., Albanese, E., Brusco, A., and Saavedra, J.P.: A Quantitative Study of Visual Cortex-Synapses during the Postnatal Development of Dark-Reared Rats, 1

Aoki, Kazuo, and Muñoz-Martínez, E. J.: On the Increase of the 68,000 Daltons Polypeptide in the *Tullidora* (Buckthorn) Neuropathy, 463

Atwood, H. L.: see Wojtowicz, J. M.

Balaban, P. M.: Postsynaptic Mechanism of Withdrawal Reflex Sesitization in the Snail, 365

Barker, D. L.: see Kushner, P. D.

Berlind, A.: see Ocorr, K. S.

Bisby, M. A., and Pollock, B.: Increased Regeneration Rate in Peripheral Nerve Axons Following Double Lesions: Enhancement of the Conditioning Lesion Phenomenon, 467

Bishop, C. A., and O'Shea, M.: Serotonin Immunoreactive Neurons in the Central Nervous System of an Insect (*Periplaneta americana*), 251

Brusco, A.: see Albanese, A.

Budziakowski, M. E., Mettrick, D. F., and Webb, R. A.: Aminergic Neurons in the Anterior Nervous Systems of the Rat Acanthocephalan *Moniliformis dubis*, 313

Bunge, M.: Review of The Human Mind. A Physiological Clarification, by Edmund Jacobson and Charles C Thomas; Brain and Intelligence in Vertebrates, by Euan M. Macphail; and Meaning and Purpose in the Intact Brain, by Robert Miller, 327

Buno, W. Jr., Bustamante, J., and Feuntes, J.: Modifications of Dynamic and Static Behavior by Small-Length Perturbations in Crayfish Stretch Receptor Organs, 177

Bunt-Milam, A. H.: Review of Evolution of Receptor Cells. Cytological, Membranous and Molecular Levels, by Yakov A. Vinnikov, 331

Bures, J.: see Gorelova, N. A.

Bustamante, J.: see Buno, W. Jr.

Cattert, D.: Influence of Walking on Swimmeret Beating in the Lobster *Homarus gammarus*, 421

Chase, R., and Kamil, R.: Neuronal Elements in Snail Tentacles as Revealed by Horseradish Peroxidase Backfilling, 29

Chase, R., and Kamil, R.: Morphology and Odor Sensitivity of Regenerated Snail Tentacles, 43

Clarac, F.: See Cattert, D.

Clark, M. A., and Eaton, D. C.: Effect of CO_2 on Neurons of the House Cricket, *Acheta domestica*, 237

Crosland, M. B.: see Nosek, T. M.

Craelius, W., Tiberio, A., and Pomerantz, J.: Nuerotrophic Regulation of GABA Receptors at a Crayfish Inhibitory Synapse, 123

Cruz, M. D.: see Janka, Z.

De Boni, U.: see Goldenberg, S. S. S.

Donoso, J. A.: see Fernandez, H. L.

Eaton, D. C.: see Clark, M. A.

Eaton, R. C.: Review of New Perspectives in Cerebral Localization, Richard A. Thompson and John R. Green, Eds., 407

Fahim, M. A., and Usherwood, P. N. R.: Effects of c-AMP, Caffeine, Theophyline, and Vinblastine on Spontaneous Transmitter Release at Locust Nerve-Muscle Junctions, 385

Fernandez, H. L., and Donoso, J. A.: Axonal Transport Involvement in Long-Lasting Synaptic Modifications in *Blatta orientalis*, 61

Field, L. H.: see Hoyle, G.

Flores, D. V., Salas, P. J. I., and Saavedra, J. P.: Electroretinographic and Ultrastructural Study of the Regenerated Eye of the Snail *Cryptomphallus aspersa*, 167

Fuentes, J.: see Buno, W. Jr.

Glantz, Raymon M.: See Kirk, Mark D.

Goldenberg, S. S. S., and De Boni, U.: Pure Population of Viable Neurons from Rabbit Dorsal Root Ganglia, Using Gradients of Percoll, 195

Gole, D.: see Ram, J. L.

Gorelova, N. A., and Bures, J.: Spiral Waves of Spreading Depression in the Isolated Chicken Retina, 353

Govind, C. K.: see Kirk, M. D.

Greenberg, L.: see Ram, J. L.

Hoyle, G., and Field, L. H.: Elicitation and Abrupt Termination of Behaviorally Significant Catchlike Tension in a Primitive Insect, 299
Hoyle, G., and Field, L. H.: Defence Posture and Leg-Position Learning in a Primitive Insect Utilize Catchlike Tension, 285
Hoyle, G.: Review of *The Mind-Body Problem*, by Mario Bunge, 337
Hoyle, Graham: Review of *Electrical Conduction and Behaviour in 'Simple' Invertebrates*, G. A. B. Shelton, Ed., 481
Hoyle, Graham: Review of *Review of Neurobiology* by Gordon M. Sheperd, 483
Horie, Hidenori: See Takenaka, Toshifumi

Ikeda, Kazuo: See Koenig, J. H.
Ikeda, K.: see Kosaka, T.

Janka, Z., Cruz, M. D., and Jones, D. G.: Veratridine-Stimulated Central Synapses in Culture: A Quantitative Ultrastructural Analysis, 77
Jones, D. G.: see Janka, Z.
Jones, Kenneth A., and Page, Charles H.: Differential Backfilling of Interneuron Populations Based Upon Axon Projections in a Lobster Abdominal Ganglion, 441

Kamil, R.: see Chase, R.
Kawasaki, Yukishige: See Takenaka, Toshifumi
Kirk, M. D., and Govind, C. K.: Innervation and Motor Patterns of the Abdominal Superficial Flexor Muscles in Larval Lobsters, 399
Kirk, Mark D., Prugh, John I., and Glantz, Raymon M.: Retinal Illumination Produces Synaptic Inhibition of a Neurosecretory Organ in the Crayfish, *Pacifastacus leniusculus* (Dana), 473
Koenig, J. H., and Ikeda, Kazuo: Evidence for a Presynaptic Blockage of Transmission in a Temperature Sensitive Mutant of Drosophila, 411
Komiya, Y.: Recovery of Slow Axonal Transport after Colchicine Treatment in Rat Sciatic Nerve, 87
Kosaka, T., and Ikeda, K.: Possible Temperature-Dependent Blockage of Synaptic Vesicle Recycling Induced by a Single Gene Mutation in *Drosophila*, 207
Kushner, P. D., and Barker, D. L.: A Neurochemical Description of the Dopaminergic Innervation of the Stomatogastric Ganglion of the Spiny Lobster, 17

Lukowiak, K.: see Ruben, P.

McKay, A. L.: see McLean, W. G.
McLean, W. G., McKay, A. L., and Sjöstrand, J.: Electrophoretic Analysis of Axonally Transported Proteins in Rabbit Vagus Nerve, 227
Mettrick, D. F.: see Budziakowski, M. E.
Mommaerts, Wilfried F. H. M.: Review of *Muscles and Their Neural Control*, by Graham Hoyle, 485
Muller, B.: see Wilson, J. A.
Muñoz-Martínez, E. J.: See Aoki, Kazuo

Nosek, T. M., and Crosland, M. B.: Calcium-Dependent Proteolysis in Nueral Tissue Is Activated at Physiologic Intracellular Ca^{2+} Levels and Inhibited by Some Inticonvulsants, 9

Ocorr, K. S., and Berlind, A.: The Identification and Localization of a Catecholamine in the Motor Neurons of the Lobster Cardiac Ganglion, 51
Ohtsu, K.: UV-Visible Antagonism in Extraocular Phososensitive Neurons of the Anthomedusa Spirocodon saltatrix (Tilesius), 145
O'Shea, M.: see Bishop, C. A.
Osmond, D. H.: Malice's Wonderland: Research Funding and Peer Review, 95

Page, Charles H.: See Jones, Kenneth A.
Phillips, C. E.: see Wilson, J. A.
Pollock, B.: See Bisby, M. A.
Pomerantz, J.: see Craelius, W.
Prugh, John I.: See Kirk, Mark D.

Ram, J. L., Gole, D., Shukla, U., and Greenberg, L.: Serotonin-Activated Adenylate Cyclase and the Possible Role of Cyclic AMP in Modulation of Buccal Muscle, 113
Rothman, R., and Westfall, T. C.: Further Evidence for an Opioid Receptor Complex, 341
Ruben, P., and Lukowiak, K.: Modulation of the *Aplysia* Gill Withdrawal Reflex by Dopamine, 271

Saavedra, J. P.: see Albanese, A.
Saavedra, J. P.: see Flores, D. V.
Salas, P. J. I.: see Flores, D. V.
Schmid, G., Wagner, L., and Weiss, D. G.: Rapid Axoplasmic Transport of Free Leucine, 133
Shukla, U.: see Ram, J. L.
Sjöstrand, J.: see McLean, W. G.
Steinbrecht, R. A.: see Wilson, J. A.
Stent, G. S.: Review of *Molecular Genetic Neuroscience*, by F. O. Schmitt, S. Bird, and F. E. Bloom, Eds., 333
Szekeley, G.: see Urban, L.

Takenaka, Toshifumi, Horie, Hidernori, and Kawasaki, Yukishige: Effect of Fatty Acids on the Membrane Fluidity of Cultured Chick Dorsal Root Measured by Fluorescence Photoleaching Recovery, 457
Tiberio, A.: see Craelius, W.

Urban, L., and Szekeley, G.: Intracellular Staining of Motoneurons with Complex Cobalt Compounds in the Frog, 157
Usherwood, P. N. R.: see Fahim, M. A.

Wagner, L.: see Schmid, G.
Webb, R. A.: see Budziakowski, M. E.
Weiss, D. G.: see Schmid, G.
Westerfield, Monte: Review of *Membrane Potential-Dependent Ion Channels in Cell Membranes*, by S. Hagiwara, 484
Westfall, T. C.: see Rothman, R.
Wilson, J. A., Phillips, C. E., Steinbrecht, R. A., and Muller, B.: The Effects of Salines and Fixatives Upon the Size of an Identified Neuron, 377
Wojtowicz, J. M., and Atwood, H. L.: Maintained Depolarization of Synaptic Terminals Facilitates Nerve-Evoked Transmitter Release at a Crayfish Neuromuscular Junction, 385

SUBJECT INDEX TO VOLUME 14

Acetylcholine, 116
Achatina fulica (snail), 29
Acheta domestica (house cricket), 237
Adenosine triphosphate (ATP), 119
Adenylate cyclase, 114
Aplysia californica, 114, 245, 271
Axoplasmic transport, fast, 133
——, slow, 87–90, 227–234
——, various speeds, 70

Backfilling of neurons, 441–455
Basic tonus, 310
Blatta orientalis, 63–74

Caffeine, effects on spontaneous transmitter release, 391
Calcium, intracellular level in crayfish, 12
Carbon dioxide, effects on insect neurons, 237
Catchlike mechanism, in insect muscle, 285, 299
Catecholamines (general) 51, 316–321
Cerebral cortex, visual, 3–6
Cobalt staining of neurons, 157
Colchicine, effects on axonal transport, 65, 87, 136
Command fiber, 435
Cryptomphallus aspersa (snail), 167
Cyclic adenosine monophosphate (cAMP), 115, 119, 391

Dopamine, in stomatogastric neruons, 26
——, modulation of reflex, 271–283
Dopaminergic neuron, 17–26, 313
Drosophila melanogaster, temperature-sensitive mutant, 207, 245, 411

EJP (excitatory junctional potential), 400–403
Endorphin, 341
Enkephalin, 341
EPSP (excitatory postsynaptic potential), 394

Facilitation, of transmitter release, 385
Fatty acids, 457

Gamma aminobutyric acid (GABA), 58, 129
Ganglion, abdominal, of *Aplysia*, 272
——, of cockroach, 263
——, cardiac, of *Homarus*, 51
——, cerebral, of Acanthocephalan, 319
——, of cockroach, 253
——, dorsal root, of chick, 457
——, of rabbit, 197
——, stomatogastric, of *Panulirus*, 18
——, subesophageal, of cockroach, 258
——, third thoracic, of weta, 285, 299, 301

Habituation, 365
Helix (snail), 365
Hemideina femorata (N.Z. primitive insect), 285, 299
Homarus americanus, 51, 399, 421–437
Horseradish peroxidase, as indicator of neuron size, 29

Identified neuron, common inhibitor (CI), of locust, weta, 305
——, DUMETi, of insect, 301
——, fast extensor tibiae (FETi), of locust, weta, 310,
— 377
——, L_7, of *Aplysia*, 278
——, of withdrawal reflex, of snail, 365–375
——, slow extensor tibiae (SETi), of locust, weta, 306
Inhibition, 473
Isolated, pure neurons, 200–205

Learning, of leg position, 285–298
L.glutamate, 57, 412–415

Microtubules, 14
Moniliformis dubius (parasite of rat), 313
Muscle receptor organ, of crayfish, 126–130, 177–192

Neuromuscular junction, 209–217
——, of crayfish, 385
——, of locust, 391
Neuromuscular transmission, in fruitfly, 415
Neuropathy (caused by tullidora plant), 465
Neurosecretory organ, of crayfish, 473–480

Noradrenaline, in cardiac ganglion, 56
——, in parasitic worm, 313
——, in stomatogastric neurons, 26

Octopamine, 304–311, 318
Opioid receptors, of rat brain, 341

Panulirus interruptus, 18
Peer review, 95–112
pH, intracellular effects in neurons, 246
Periplaneta americana (cockroach), 251
Procambarus clarkii, 7, 18, 124, 178, 310, 386
Proctolin, 307

Rana esculenta (frog), 157
Rat, 1–7, 78–83
Regeneration of peripheral nerve, 467
Rubeanic acid (as stain with cobalt), 447

Schistocerca gregaria (locust), 378
Sensitization, 365
Sensory axons (of rat), 470
Serotonin (5-hydroxytryptamine), 113–120, 251–267
Spirocodon saltatrix (jellyfish), 145
Spreading depression, of isolated retina, 353
Swimmeret beating, of lobster, 421
Synapses, in visual cortex, 1–6
Synaptic vesicles, blockage of recycling, 207

Theophylline, effects on spontaneous transmitter release, 391

Veratridine, effects on central synapses, 77
Vinblastine, effects on spontaneous transmitter release, 391

Walking (of lobster), 421

JOURNAL OF NEUROBIOLOGY

An International Journal

Editor-in-Chief: GRAHAM HOYLE, *Institute of Neuroscience, University of Oregon, Eugene, Oregon 97403*

Associate Editors

MICHAEL V. L. BENNETT, *Department of Anatomy, Albert Einstein College of Medicine, Bronx, New York 10461*

STEPHEN M. CRAIN, *Department of Neuroscience & Physiology, Albert Einstein College of Medicine, Bronx, New York 10461*

SIDNEY OCHS, *Department of Physiology, Indiana University Medical Center, Indianapolis, Indiana 46202*

FELIX STRUMWASSER, *Division of Biology, California Institute of Technology, Pasadena, California 91125*

Editorial Board

H. L. Atwood, *Toronto, Canada*
E. Bizzi, *Cambridge, Mass.*
F. Bloom, *San Diego, Calif.*
T. H. Bullock, *La Jolla, Calif.*
J. Bureš, *Prague, Czechoslovakia*
M. Burrows, *Cambridge, England*
E. DeRobertis, *Buenos Aires, Argentina*
A. Gelperin, *Princeton, N.J.*
K. Graubard, *Seattle, Wash.*
S. Hagiwara, *Los Angeles, Calif.*
D. B. Kelley, *New York, N.Y.*
R. R. Llinas, *New York, N.Y.*
B. S. McEwen, *New York, N.Y.*
H. McIlwain, *London, England*
P. G. Nelson, *Bethesda, Md.*
I. Parnas, *Jerusalem, Israel*
L. Tauc, *Paris, France*
A. O. D. Willows, *Friday Harbor, Wash.*
R. S. Zucker, *Berkeley, Calif.*

Journal of Neurobiology (ISSN 0022-3034) is published bimonthly, one volume per year, by John Wiley & Sons, Inc. Copyright © 1983 by John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10158. All rights reserved. Reproduction or translation of any part of this work beyond that permitted by Sections 107 or 108 of the 1976 United States Copyright law without the permission of the copyright owner is unlawful.

The code and the copyright notice appearing at the bottom of the first page of an article in this journal indicate the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients, on the condition that the copier pay for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. The per-copy fee for each article appears after the dollar sign and is to be paid through the Copyright Clearance Center, Inc., 21 Congress Street, Salem, Massachusetts 01970. (The fee for articles published prior to 1978 is $1.00 per article.) This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Such permission requests and other permission inquiries should be addressed to the publisher.

Subscription price: $95.00 per volume (1984, $120.00). Postage and handling outside U.S.A.: $21.00 by surface; $100.00 by air. Please allow four weeks for change of address. Back volumes, microfilm, and microfiche available for previous years. Request price list from publisher. Claims for undelivered copies will only be accepted after the following issue has been received. Please enclose mailing label. Missing copies will be supplied when losses have been sustained in transit and where reserve stock will permit.

The contents of this journal are indexed in the following: *Contents/Life Sciences*, *Science Citation Index*, *Chemical Abstracts*, *Excerpta Medica*, *Index Medicus*, and *Biological Abstracts*.

Postmaster: Send all address changes to Subscription Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10158.

Manuscripts should be submitted in triplicate to Dr. Graham Hoyle or to an Associate Editor. Books for review should be sent to Dr. Hoyle. Address all other correspondence to Journals Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10158. Second-class postage paid at New York, New York, and at additional mailing offices.

Inquiries concerning **advertising** should be forwarded to either the U.S. Advertising Representative, Daniel S. Lipner, Weston Media Associates, 37 Gray's Farm Road, Weston, CT 06883, or to the European Advertising Representative, Richard Webb, REW Space Sales, Apartment 1, 2 Gladstone Road, Kingston-upon-Thames, Surrey KT1 3HD, U.K.

Journal of Neurobiology

Contents

Volume 14, 1983

Issue 1, January 1983

A Quantitative Study of Visual Cortex Synapses during the Postnatal Development of Dark-Reared Rats
A. Albanese, E. Albanese, A. Brusco, and J. P. Saavedra 1

Calcium-Dependent Proteolysis in Neural Tissue Is Activated at Physiologic Intracellular Ca^{2+} Levels and Inhibited by Some Anticonvulsants
T. M. Nosek and M. B. Crosland 9

A Neurochemical Description of the Dopaminergic Innervation of the Stomatogastric Ganglion of the Spiny Lobster
P. D. Kushner and D. L. Barker 17

Neuronal Elements in Snail Tentacles as Revealed by Horseradish Peroxidase Backfilling
R. Chase and R. Kamil 29

Morphology and Odor Sensitivity of Regenerated Snail Tentacles
R. Chase and R. Kamil 43

The Identification and Localization of a Catecholamine in the Motor Neurons of the Lobster Cardiac Ganglion
K. S. Ocorr and A. Berlind 51

Axonal Transport Involvement in Long-Lasting Synaptic Modifications in *Blatta orientalis*
H. L. Fernandez and J. A. Donoso 61

Veratridine-Stimulated Central Synapses in Culture: A Quantitative Ultrastructural Analysis
Z. Janka, M. D. Cruz, and D. G. Jones 77

Brief Communication

Recovery of Slow Axonal Transport after Colchicine Treatment in Rat Sciatic Nerve
Y. Komiya 87

Announcement 92

Information for Contributors 93

Issue 2, March 1983

Malice's Wonderland: Research Funding and Peer Review
D. H. Osmond 95

Serotonin-Activated Adenylate Cyclase and the Possible Role of Cyclic AMP in Modulation of Buccal Muscle Contraction in *Aplysia*
Jeffery L. Ram, Dilip Gole, Umesh Shukla, and Laurence Greenberg 113

Neurotrophic Regulation of GABA Receptors at a Crayfish Inhibitory Synapse
William Craelius, Angela Tiberio, and Jeffrey Pomerantz 123

Rapid Axoplasmic Transport of Free Leucine
Georg Schmid, Lothar Wagner, and Dieter G. Weiss 133

UV-Visible Antagonism in Extraocular Photosensitive Neurons of the Anthomedusa *Spirocodon saltatrix* (Tilesius)
Kohzoh Ohtsu 145

Brief Communication

Intracellular Staining of Motoneurons with Complex Cobalt Compounds in the Frog
Laszlo Urban and Gyorgy Szekeley 157

Announcement 163

Information for Contributors 165

Issue 3, May 1983

Electroretinographic and Ultrastructural Study of the Regenerated Eye of the Snail *Cryptomphallus aspersa*
D. Vladimir Flores, Pedro J. I. Salas, and Jorge Pecci Saavedra 167

Modifications of Dynamic and Static Behavior by Small-Length Perturbations in Crayfish Stretch Receptor Organs
W. Buño Jr., J. Bustamante, and J. Fuentes 177

Pure Population of Viable Neurons from Rabbit Dorsal Root Ganglia, Using Gradients of Percoll
S. S. S. Goldenberg and U. De Boni 195

Possible Temperature-Dependent Blockage of Synaptic Vesicle Recycling Induced by a Single Gene Mutation in *Drosophila*
Toshio Kosaka and Kazuo Ikeda 207

Electrophoretic Analysis of Axonally Transported Proteins in Rabbit Vagus Nerve
W. G. McLean, A. L. McKay, and J. Sjöstrand 227

Effect of CO_2 on Neurons of the House Cricket, *Acheta domestica*
Mary Anne Clark and Douglas C. Eaton 237

Issue 4, July 1983

Serotonin Immunoreactive Neurons in the Central Nervous System of an Insect (*Periplaneta americana*)
Cynthia A. Bishop and Michael O'Shea 251

Modulation of the *Aplysia* Gill Withdrawal Reflex by Dopamine
Peter Ruben and Ken Lukowiak 271

Defense Posture and Leg-Position Learning in a Primitive Insect Utilize Catchlike Tension
Graham Hoyle and Laurence H. Field 285

Elicitation and Abrupt Termination of Behaviorally Significant Catchlike Tension in a Primitive Insect
Graham Hoyle and Laurence H. Field 299

Aminergic Neurons in the Anterior Nervous System of the Rat Acanthocephalan *Moniliformis dubis*
M. Eva Budziakowski, D. F. Mettrick, and Rodney A. Webb 313

Book Reviews

Mario Bunge, Review of The Human Mind. A Physiological Clarification, by *Edmund Jacobson and Charles C. Thomas;* Brain and Intelligence in Vertebrates, by *Euan M. Macphail;* and Meaning and Purpose in the Intact Brain, by *Robert Miller* 327

Ann H. Bunt-Milam, Review of Evolution of Receptor Cells. Cytological, Membranous and Molecular Levels, by *Yakov A. Vinnikov* 331

Gunther S. Stent, Review of Molecular Genetic Neuroscience, by *F. O. Schmitt, S. Bird,* and *F. E. Bloom,* Eds. 333

Graham Hoyle, Review of The Mind-Body Problem, by *Mario Bunge* 337

Announcement 339

Issue 5, September 1983

Further Evidence for an Opioid Receptor Complex
Richard Rothman and Thomas C. Westfall 341

Spiral Waves of Spreading Depression in the Isolated Chicken Retina
N. A. Gorelova and J. Bures 353

Postsynaptic Mechanism of Withdrawal Reflex Sesitization in the Snail
P. M. Balaban 365

The Effects of Salines and Fixatives Upon the Size of an Identified Neuron
J. A. Wilson, C. E. Phillips, R. A. Steinbrecht, and B. Müller 377

Brief Communications

Maintained Depolarization of Synaptic Terminals Facilitates Nerve-Evoked Transmitter Release at a Crayfish Neuromuscular Junction
J. M. Wojtowicz and H. L. Atwood 385

Effects of c-AMP, Caffeine, Theophyline, and Vinblastine on Spontaneous Transmitter Release at Locust Nerve-Muscle Junctions
M. A. Fahim and P. N. R. Usherwood 391

Innervation and Motor Patterns of the Abdominal Superficial Flexor Muscles in Larval Lobsters
Mark D. Kirk and C. K. Govind 399

Book Review

Robert C. Eaton, *Review of* New Perspectives in Cerebral Localization, *Richard A. Thompson and John R. Green*, Eds. 407

Announcements 409

Editorial Announcement 410

Issue 6, November 1983

Evidence for a Presynaptic Blockage of Transmission in a Temperature Sensitive Mutant of *Drosophila*
J. H. Koenig and Kazuo Ikeda 411

Influence of Walking on Swimmeret Beating in the Lobster *Homarus gammarus*
D. Cattert and F. Clarac 421

Differential Backfilling of Interneuron Populations Based Upon Axon Projections in a Lobster Abdominal Ganglion
Kenneth A. Jones and Charles H. Page 441

Brief Communications

Effect of Fatty Acids on the Membrane Fluidity of Cultured Chick Dorsal Root Measured by Fluorescence Photobleaching Recovery
Toshifumi Takenaka, Hidenori Horie, and Yukishige Kawasaki 157

On the Increase of the 68,000 Daltons Polypeptide in the *Tullidora* (Buckthorn) Neuropathy
Kazuo Aoki and E. J. Munoz-Martinez 463

Increased Regeneration Rate in Peripheral Nerve Axons Following Double Lesions: Enhancement of the Conditioning Lesion Phenomenon
M. A. Bisby and B. Pollock 467

Retinal Illumination Produces Synaptic Inhibition of a Neurosecretory Organ in the Crayfish, *Pacifastacus leniusculus* (Dana)
Mark D. Kirk, John I. Prugh, and Raymon M. Glantz ... 473

Book Reviews

Graham Hoyle, *Review of* Electrical Conduction and Behaviour in 'Simple' Invertebrates, *G. A. B. Shelton, Ed.* 481

Graham Hoyle, *Review of* Review of Neurobiology by Gordon M. Sheperd 483

Monte Westerfield, *Review of* Membrane Potential-Dependent Ion Channels in Cell Membranes *by S. Hagiwara* 484

Wilfried F. H. M. Mommaerts, *Review of* Muscles and Their Neural Control *by Graham Hoyle* 485

Author Index to Volume 14 487

Subject Index to Volume 14 491

Information for Contributors 493

Volume Title Page i

Volume Contents iii